GOVERNMENT OF INDIA
EARTH SCIENCES
LOK SABHA

STARRED QUESTION NO:96
ANSWERED ON:08.02.2017
Monitoring of Glaciers
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Will the Minister of EARTH SCIENCES be pleased to state:

(a) whether any monitoring of Himalayan glaciers and the water audit of the rivers of the Himalayan Foothills and Gangetic plains have been conducted during the last three years;

(b) if so, the details and the outcome thereof;

(c) whether there has been a gradual decline of Himalayan glaciers;

(d) if so, the details thereof and the reasons therefor along with its likely impact on future water supply to the glacially fed rivers of north India; and

(e) the details of the corrective measures taken/being taken in this regard?

Answer

THE MINISTER FOR MINISTRY OF SCIENCE AND TECHNOLOGY AND
MINISTRY OF EARTH SCIENCES
(Dr. HARSH VARDHAN)

(a) to (e): A statement is laid on the Table of the House.

STATEMENT REFERRED TO IN REPLY TO PARTS (a) to (e) OF THE LOK SABHA STARRED QUESTION NO. *96 REGARDING MONITORING OF GLACIERS FOR ANSWER ON 8th FEBRUARY, 2017.

(a) Yes, Madam. A total of six glaciers namely Sutri Dhaka, Batal, Bara Shigri, Samudra Tapu, Gepang Gath and Kunjum of Chandra basin are monitored for mass, energy and hydrological balance by Ministry of Earth Sciences (MoES). MoES has not carried out any water audit of the rivers of the Himalayan Foothills and Gangetic plains during the last three years.

(b) National Centre of Antarctic and Ocean Research (NCAOR), an autonomous Institute of MoES has been monitoring Chandra basin, one of the tributary basin of Indus since 2013 for mass balance and Hydrological balance. NCAOR has established a high altitude research station in Himalaya called HIMANSH situated above 4000 m at a remote region in Lahaul-Spiti, Himachal Pradesh to study and quantify the Himalayan glacier responses towards climate change. Several other Government agencies such as Geological Survey of India (GSI), Snow and Avalanche Study Establishment (SASE), Space Application Centre (SAC), Wadia Institute of Himalayan Geology (WIHG), National Institute of Hydrology (NIH), are also engaged in regular monitoring of glacier dynamics, snow and glacier melting, geometrical changes and climate studies on the Himalayan glaciers. A number of glaciers have been taken up for long term measurements on glacier-climate interaction in the different parts of Indian Himalayan Region by some of these agencies.

(c) Yes, Madam.

(d) Studies have revealed that the Himalayan glaciers are retreating in general but not at a rapid pace. The rate of melting/recession varies from glacier to glacier depending on topography and climatic variability of the region. While, the glaciers in the eastern and central part of Indian Himalaya are continuously retreating, some of the glaciers in the Western part of Himalaya are reported to be advancing. There is no abnormal trend of melting documented in recent years. Studies indicate some of the likely impacts of melting of glaciers on the hydrological system in form of changes in the river hydrology, increased debris production and siltation of rivers in down-stream regions.

(e) Ministry of Science & Technology has launched National Mission for Sustaining the Himalayan Ecosystem (NMSHE) under National Action Plan on Climate Change (NAPCC) aimed at evolving conservation measures for sustaining and safeguarding the Himalayan glaciers and mountain ecosystems through establishment of monitoring network, promotion of community based management, human resource development, and strengthening regional cooperation. Major initiatives taken under NMSHE include

creation of Thematic Task Forces on Himalayan Agriculture, Traditional Knowledge systems, Forest Resources and Plant Diversity, Natural and Geological Wealth, Water, Ice, Snow including Glaciers and Fauna and Wildlife Habitats. It also includes networking of related institutions for focused research in different themes of Himalayan ecosystem. Programs have been initiated for training in the field of glaciology, awareness programs for community based organizations and officials related to the Indian Himalayan Region. State Climate Change Centres have been set up in the seven Himalayan states, namely, Jammu and Kashmir, Himachal Pradesh, Manipur, Mizoram, Tripura, Sikkim and Meghalaya.